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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,689	07/31/2003	Michael John Mania	15772.0003	7659

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EXAMINER

MCKINNON, TERRELL L

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 06/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/630,689

Applicant(s)

MANIA ET AL.

Examiner

Terrell L Mckinnon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 13-15, 17-20, 22, 23 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al. (U.S. 4,203,488).

Johnson discloses self-fastened heat sinks comprising all of the applicant's claimed and disclosed limitation of the instant invention.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5-7, 9-10, 16 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (U.S. 4,203,488) in view of Ju (6,590,772).

Johnson's invention discloses all of the claimed limitations from above except for the at least two mounting flanges include holes for a fastener; the heat sink includes

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holes for the fastener to fasten the heat sink to the mounting plate; and the fastener includes one of a screw, a rivet and a bolt.

5. However, Ju teaches a mounting plate (5, 6 and 41) comprising mounting flanges and holes for a fastener; the heat sink includes holes for the fastener (12 and 24) to fasten the heat sink (4) to the mounting plate; and the fastener includes one of a screw, a rivet and a bolt.

Given the teachings of Ju, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the heat sinks of Johnson with mounting flanges including holes for a fastener; the heat sink including holes for the fastener to fasten the heat sink to the mounting plate; and the fastener includes one of a screw, a rivet and a bolt.

Doing so would provide a safe and reliable means of securing the mounting plate to the heat sink.

6. Claims 8, 11, 12, 21 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (U.S. 4,203,488) in view of Ju (6,590,772) as applied to claims above, and further in view of Buller et al. (U.S. 4,978,638).

Johnson's invention, as modified by Ju, discloses all of the claimed limitations from above except for a thermal interface material adjoining a lower surface of the heat sink; the mounting plate being electrically insulated; and the mounting plate being electrically conductive and coupled to an electrical potential provided by the substrate.

7. However, Buller teaches the use of a thermal interface material (14) adjoining a lower surface of the heat sink (18); a mounting plate being electrically insulated; and the

mounting plate being electrically conductive and coupled to an electrical potential provided by the substrate.

Given the teachings of Buller, it would have been obvious to one of ordinary skill in the art at the time of the invention to furthermore modify the heat sink of Johnson with a thermal interface material adjoining a lower surface of the heat sink; the mounting plate being electrically insulated; and the mounting plate being electrically conductive and coupled to an electrical potential provided by the substrate.

Doing so would enhance the thermal conductivity of the heat sink and provide an electrically insulated and conductive substrate.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are cited for disclosing related limitations of the applicant's claimed and disclosed invention. Villani, Johnson et al., Sparling, Sigl et al, Jarvis, Clemens and Wu.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terrell L Mckinnon whose telephone number is 703-305-0059. The examiner can normally be reached on Monday -Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett can be reached on 308-0101. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Terrell L McKinnon
Primary Examiner
Art Unit 3743
June 1, 2004